

H.A

Notice of Allowability	Application No.	Applicant(s)	
	10/734,623	SHAFFER ET AL.	
	Examiner	Art Unit	
	William C. Choi	2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Preliminary amendment and election filed 5/2/2005.
2. ☒ The allowed claim(s) is/are 1-48 and 50-53.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☒ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>0605</u> |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>0704 & 1004</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

Election/Restrictions

Newly submitted claim 54 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the invention is distinct from the invention originally claimed because it has a different mode of operation. Original claims 1 and 48 disclose wherein first and second beam sections of a catadioptric projection objective are folded and pass a first folding mirror without vignetting and cross one another in a cross-over region, whereas new claim 54 discloses wherein a catadioptric projection objective is used with a machine having a control device configured to move a mask and substrate synchronously in the same, parallel directions.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 54 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

This application is in condition for allowance except for the presence of claim 49 to an invention non-elected without traverse. Accordingly, claim 49 has been cancelled.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Peter McKenna on July 8, 2005.

The application has been amended as follows:

1. Cancel claims 49 and 54.

Allowed Claims: 1-48 and 50-53.

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance: none of the prior art either alone or in combination disclose or teach of the claimed combination of limitations to warrant a rejection under 35 USC 102 or 103.

Specifically, with respect to independent claim 1, none of the prior art alone or in combination disclose or teach of a catadioptric projection objective for projecting a pattern with the formation of at least one real intermediate image at an image-side numerical aperture $NA > 0.7$ as claimed, specifically wherein a first folding mirror is arranged with reference to a concave mirror in such a way that one of the beam

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sections is folded at the first folding mirror and the other beam section passes the first folding mirror without vignetting and the first and second beam sections cross one another in a cross-over section.

Specifically, with respect to independent claim 48, none of the prior art alone or in combination disclose or teach of a projection exposure machine having a catadioptric projection objective for projecting a pattern with the formation of at least one real intermediate image given an image-side numerical aperture $NA > 0.7$ as claimed, specifically wherein a first folding mirror is arranged with reference to a concave mirror in such a way that one of the beam sections is folded at the first folding mirror and the other beam section passes the first folding mirror without vignetting and the first and second beam sections cross one another in a cross-over section.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

CONCLUSION

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Oskotsky et al (U.S. 2003/0039028 A1) and Oomura (U.S. 5,638,218) are being cited herein to show catadioptric projection objectives comprising some of the structural limitations of that of the claimed invention, but do not specifically disclose the beam arrangement as claimed.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Choi whose telephone number is (571) 272-2324. The examiner can normally be reached on Monday-Friday from about 9:00 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached on (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

W. C.
William Choi
Patent Examiner
Art Unit 2873
July 8, 2005


DAVID SPECTOR
PRIMARY EXAMINER